



## PATENT COOPERATION TREATY

## PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>PICA-16259</b>	FOR FURTHER ACTION	See Form PCT/IPEA/416																								
International application No. <b>PCT/JP2004/006973</b>	International filing date (day/month/year) <b>17.05.2004</b>	Priority date (day/month/year) <b>16.05.2003</b>																								
International Patent Classification (IPC) or national classification and IPC																										
Applicant <b>INTELLIGENT COSMOS RESEARCH INSTITUTE</b>																										
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of <u>5</u> sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p> <p>4. This report contains indications relating to the following items:</p> <table border="0"><tr><td><input checked="" type="checkbox"/></td><td>Box No. I</td><td>Basis of the report</td></tr><tr><td><input type="checkbox"/></td><td>Box No. II</td><td>Priority</td></tr><tr><td><input type="checkbox"/></td><td>Box No. III</td><td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td></tr><tr><td><input type="checkbox"/></td><td>Box No. IV</td><td>Lack of unity of invention</td></tr><tr><td><input checked="" type="checkbox"/></td><td>Box No. V</td><td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td></tr><tr><td><input type="checkbox"/></td><td>Box No. VI</td><td>Certain documents cited</td></tr><tr><td><input type="checkbox"/></td><td>Box No. VII</td><td>Certain defects in the international application</td></tr><tr><td><input type="checkbox"/></td><td>Box No. VIII</td><td>Certain observations on the international application</td></tr></table>			<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
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Date of submission of the demand	Date of completion of this report																									
Name and mailing address of the IPEA/JP	Authorized officer																									
Facsimile No.	Telephone No.																									

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

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Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This report is based on translations from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:
    - ☐ international search (Rule 12.3 and 23.1(b))
    - ☐ publication of the international application (Rule 12.4)
    - ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):
  - ☐ the international application as originally filed/furnished
  - ☒ the description:
    - pages 1-13 \_\_\_\_\_ as originally filed/furnished
    - pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
    - pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
  - ☒ the claims:
    - nos. 4, 7, 8, 10, 11, 13-20 \_\_\_\_\_ as originally filed/furnished
    - nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19
    - nos.\* 1-3, 5, 6, 9, 12 received by this Authority on 15.03.2005
    - nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
  - ☒ the drawings:
    - sheets fig. 1-15 \_\_\_\_\_ as originally filed/furnished
    - sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
    - sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
  - ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
  - ☐ the description, pages \_\_\_\_\_
  - ☐ the claims, nos. \_\_\_\_\_
  - ☐ the drawings, sheets/figs \_\_\_\_\_
  - ☐ the sequence listing (*specify*): \_\_\_\_\_
  - ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
  - ☐ the description, pages \_\_\_\_\_
  - ☐ the claims, nos. \_\_\_\_\_
  - ☐ the drawings, sheets/figs \_\_\_\_\_
  - ☐ the sequence listing (*specify*): \_\_\_\_\_
  - ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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**Box No. V** Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	1-20	YES
	Claims		NO
Inventive step (IS)	Claims	15-17	YES
	Claims	1-14, 18-20	NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims		NO

## 2. Citations and explanations (Rule 70.7)

Document 1: JP 2001-160703 A (Murata Mfg. Co., Ltd.), 12 June 2001, entire text and fig. 1 to 11  
(Family: none)

Document 2: JP 2001-217332 A (Hitachi, Ltd.), 10 August 2001, entire text and fig. 1 to 12 (Family: none)

Document 3: JP 2001-7613 A (Tokai University), 12 January 2001, entire text and fig. 1 to 15 (Family: none)

Document 4: Taishi KUROKI, Tsunehito KIMURA, Koichi YAMAOKA and Tsutomu YONEYAMA, "NRD Guide-Suichoku Strip Senro Henkanki wo Mochiita 60 GHz Tai T-bunki," 2002 Nen The Institute of Electronics, Information and Communication Engineers Electronics Society Taikai, C-2-39, 2002

Document 5: Taishi KUROKI, Tsunehito KIMURA, Koichi YAMAOKA, Tsutomu YONEYAMA, "NRD Guide-Suichoku Strip Senro Henkanki wo Mochiita 60 GHz Tai T-bunki Kairo," 2003 Nen The Institute of Electronics, Information and Communication Engineers Sogo Taikai, C-2-62, 03 March 2003

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
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Document 6: JP 11-74708 A (Mitsubishi Electric Corp.), 16 March 1999, entire text and fig. 1 to 7  
(Family: none)

Document 7: JP 11-31548 A (Olympus Optical Co., Ltd.), 02 February 1999, paragraph [0035] and fig. 4  
(Family: none)

Document 8: JP 11-195444 A (AMP (Japan) Ltd.), 21 July 1999, paragraph [0023] and fig. 1 and 2  
(Family: none)

The inventions set forth in claims 1 and 2 do not involve an inventive step in the light of documents 1 and 2. Document 1 discloses an up and down converter for an NRD guide and a coaxial line (therein, it is apparent that the conductor pattern (5) constitutes a coaxial line in the light of the fact that said conductor pattern (5) is surrounded by the conductive plates (1 and 2)). Meanwhile, up and down converters for coaxial lines and micro strip lines are well known, as disclosed in document 2 (fig. 2 and the like) for example; therefore, it would have been possible to arbitrarily mount a coaxial line/micro strip line converter to the abovementioned coaxial line in the invention that is disclosed in document 1, as necessary.

The invention set forth in claim 3 does not involve an inventive step in the light of documents 1 to 3. The feature of forming different types of circuits by combining dielectric lines and micro strip lines is merely a simple design matter that could have been configured by a person skilled in the art, as appropriate, as is apparent from document 3, for example, which discloses configurations for circuits wherein two

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

dielectric lines are connected by means of micro strip lines that are disposed therebetween.

The invention set forth in claim 4 does not involve an inventive step in the light of documents 1 to 5. NRD guide/vertical strip line converters are well known, as disclosed in documents 4 and 5, etc.

The invention set forth in claim 5 does not involve an inventive step in the light of documents 1 to 6. The technical feature of providing a choke structure to a coaxial line/micro strip line converter is well known, as disclosed in document 6 for example. In addition, a person skilled in the art could arbitrarily select a location for the provision of the choke structure, as necessary.

The inventions set forth in claims 6 to 14 and 18 to 20 do not involve an inventive step in the light of documents 1 to 8. Documents 7 and 8 disclose a method for inserting and mounting coaxial lines within holes that have been formed in an insulating material, wherein an adhesive agent or the like is filled into the spaces between the insulating material and the coaxial lines so as to ensure that the lines are mounted within the insulating material with no empty spaces therebetween. In addition, the feature of using an adhesive agent in order to fill the empty spaces is well known, as is apparent from document 8 (paragraph [0023]), for example, which discloses the feature of using an adhesive agent in order to fill the empty spaces.

The inventions set forth in claims 15 to 17 are not disclosed in any of documents 1 to 8, and would not have been obvious to a person skilled in the art.